Global gross annual capacity additions by technology, 2013-30 (GW)

Note: Figure excludes retirements

Source: Bloomberg New Energy Finance
Capital investment by region and by technology, 2013-26 ($bn nominal)

Note: Figure excludes other and flexible capacity.

Source: Bloomberg New Energy Finance
Price of solar modules and experience curve ($/W as function of global cumulative capacity)

Source: Bloomberg New Energy Finance, Paul Maycock, company filings

Notes: Prices in 2013 USD.
Global residential-scale PV system economics

Note: NJ, New Jersey; CA, California. Source: Bloomberg New Energy Finance
“You can think about Hawaii as a postcard from the future of what’s going to happen in the electric industry in the United States”

– James Robo, chairman and chief executive officer of NextEra, following the company’s acquisition of Hawaiian Electric Industries
Since 2000, 93% of new power capacity built in the US has been natural gas plants or renewable energy projects.

Source: EIA
New investment in clean energy
2004-14 ($bn)

Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D, and spending for digital energy and energy storage projects (not reported in quarterly statistics).

Source: Bloomberg New Energy Finance
New investment in clean energy by region ($bn)

- Total new investment in clean energy globally increased for the first time in three years and is near its 2011 peak.
- US investment levels were up in 2014 and are second highest in the world on a country basis.
- In 2014, the US was the world’s second-largest market for new wind installations, behind China, and third-largest for solar, behind China and Japan.

Source: Bloomberg New Energy Finance

Notes: For definition of clean energy, see slide in Section 2.2 of this report titled ‘Finance: US clean energy investment (1 of 2) – total new investment, all asset classes ($bn)’. AMER is Americas; APAC is Asia-Pacific; EMEA is Europe, Middle East, and Africa.
Clean energy investment types & flows
2014 ($bn)

Note: Total values include estimates for undisclosed deals. AF = asset finance, SDC = small distributed capacity.

Source: Bloomberg New Energy Finance
NEX CLEAN ENERGY INDEX
2003–15 YTD

Note: Values as of 01 January 2015; NASDAQ and S&P 500 rebased to 100 on 1 Jan 2003

Source: Bloomberg New Energy Finance
EVOLUTION OF US SOLAR PROJECT FINANCING

2008 – ~2012

- Development
- Construction
- Commission / Operation

- DEBT
  - INSURANCE COMPANIES
  - BANKS

- EQUITY
  - VENTURE CAPITAL (VC)
  - DEVELOPMENT PRIVATE EQUITY
  - INFRASTRUCTURE PRIVATE EQUITY
  - SMALL/MED DEVELOPERS

- TAX EQUITY
  - LARGE DEVELOPERS / UTILITIES
  - BANKS (AND OTHER SELECTED PLAYERS)

- COSTS OF CAPITAL
  - ~2x returns on original investment
  - ~15% cost of equity (levered)
  - ~8-9% tax equity yield (after-tax, unlevered)
  - ~14-18% (levered)
  - ~6-7% cost of debt

~2013-14 and the near-term future

- Development
- Construction
- Commission / Operation
- Spin-out of operating assets

- DEBT
  - INSURANCE COMPANIES
  - BANKS
  - INFRASTRUCTURE DEBT FUNDS

- EQUITY
  - VENTURE CAPITAL (VC)
  - DEVELOPMENT PRIVATE EQUITY
  - INFRASTRUCTURE PRIVATE EQUITY
  - SMALL/MED DEVELOPERS
  - LARGE DEVELOPERS / UTILITIES
  - BANKS / NON-FINANCIAL CORPORATES

- TAX EQUITY
  - BANKS
  - PENSION FUNDS
  - MUTUAL FUNDS
  - RETAIL INVESTORS
  - HIGH-RISK HEDGE FUNDS
  - INFRASTRUCTURE PRIVATE EQUITY
  - ACQUISITION-ORIENTED UTILITIES

- COSTS OF CAPITAL
  - ~1.5-2x returns on original investment
  - ~7-9% cost of equity (unlevered)
  - ~8% tax equity yield (after-tax, unlevered)
  - ~5-6% cost of debt
  - ~14% cost of equity (levered)
  - ~6-7% cost of debt
  - ~6% cost of equity (unlevered)
  - ~5% cost of debt (capital markets debt financing)
US SOLAR IPOS
BY YEAR AND TOTAL OFFERING SIZE ($M)

Source: Bloomberg New Energy Finance

Publicly-traded company whose main purpose is to buy and hold operational assets and pass the majority of cashflows from those assets to investors in the form of dividends

- Not new – eg, Canadian firms originally launched under FAIT structures (Innergex, Brookfield, Northland Power)
- This recent surge is unique as the companies are not tax-advantaged, and most are focused in US with strong tilt towards non-hydro renewable energy
- For investors, the opportunity looks especially attractive in environment of low interest rates

Source: Bloomberg New Energy Finance
Note: Patterned bars indicate planned capacity, and coloured bars indicate current capacity in the yieldco. Abengoa’s non-power generation assets are not reflected in this chart. TerraForm numbers include recent First Wind acquisition. Planned includes ROFO plus pending acquisitions.

Source: Company filings, Bloomberg New Energy Finance
GREEN BOND (NARROW UNIVERSE) ISSUANCE BY TYPE, BY YEAR, 2007-14 ($BN)

Notes: See Section 2 of BNEF’s Q1 2015 Green Bonds Market Outlook for methodology.

Source: Bloomberg New Energy Finance, Bloomberg Terminal
Notes: ‘APAC’ is Asia-Pacific; ‘AMER’ is Americas region; ‘EMEA’ is Europe, Middle East, Africa. ‘EST’ stands for energy smart technologies, BNEF’s terminology for digital energy, energy efficiency and advanced energy storage. ‘EVs’ stands for electric vehicles. ‘Other’ includes bioenergy, geothermal and small hydro. See Section 2 of the accompanying report for methodology.

Source: Bloomberg New Energy Finance, Bloomberg Terminal
**Table 2: Acceptable use of proceeds types in Bloomberg’s ‘market labelled’ universe**

<table>
<thead>
<tr>
<th>Use of proceeds type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable energy</td>
<td>Solar, wind, small hydropower, geothermal, biomass/biofuel/bioenergy,</td>
</tr>
<tr>
<td></td>
<td>waste-to-energy, tidal and other renewables</td>
</tr>
<tr>
<td>Energy smart technologies and energy efficiency</td>
<td>Electric and hybrid vehicles, fuel cells, energy storage, digital</td>
</tr>
<tr>
<td></td>
<td>energy and energy efficiency (buildings, industry, LED and smart lighting) and other green building initiatives</td>
</tr>
<tr>
<td>Green buildings and infrastructure</td>
<td>New LEED, BREEAM or other certified building and energy efficient social infrastructure</td>
</tr>
<tr>
<td>Agriculture and forestry</td>
<td>Forestry management, reforestation, afforestation and land-use</td>
</tr>
<tr>
<td>Other sustainability</td>
<td>Other climate change adaptation/mitigation, including waste management,</td>
</tr>
<tr>
<td></td>
<td>clean water, pollution control, etc.</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Bloomberg New Energy Finance
**Significant Fossil Fuel Divestment Will Mean Investing Outside of Energy Stocks**

Oil & gas and coal companies compared to other sectors (market cap and yield)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total Market Cap ($trn)</th>
<th>Largest 100 Co Average Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil &amp; Gas</td>
<td>$4.65</td>
<td>2.41%</td>
</tr>
<tr>
<td>Coal</td>
<td>$0.23</td>
<td>2.21%</td>
</tr>
<tr>
<td>Information Technology</td>
<td>$7.64</td>
<td>1.05%</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>$3.93</td>
<td>0.86%</td>
</tr>
<tr>
<td>Food &amp; Beverage</td>
<td>$3.34</td>
<td>2.09%</td>
</tr>
<tr>
<td>Engineering</td>
<td>$1.66</td>
<td>1.52%</td>
</tr>
<tr>
<td>REITs</td>
<td>$1.39</td>
<td>4.55%</td>
</tr>
<tr>
<td>Automobiles</td>
<td>$1.23</td>
<td>1.33%</td>
</tr>
<tr>
<td>Industrials</td>
<td>$1.17</td>
<td>1.82%</td>
</tr>
</tbody>
</table>

Note: "average yield" is current average annual dividend yield. Includes the largest 3,000 companies in each sector, or fewer if the sector has less than 3,000 listed firms. Data as at 31 July 2014.

Source: Bloomberg

Based on BNEF report, "Fossil fuel divestment: a $5trn challenge", August 2014
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